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Frequency of Helicobacter pylori infection in gastric biopsies in renal transplant recipients with upper gastrointestinal symptoms

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INTRODUCTION:

It is known that *Helicobacter pylori* (*HP*) plays an important role in gastritis and peptic ulcer disease. In addition, the International Agency for Research on Cancer (IARC) categorized *HP* infection as a type I carcinogen and it is considered as the primary cause of gastric cancer. *HP* eradication reduces relapse in peptic ulcer and decreases gastric cancer risk. The incidence of gastrointestinal (GI) complications in renal transplant recipients (RTRs) is relatively high and complications may be severe and may lead to graft loss and even patient death. The most frequently found gastrointestinal disease in transplant recipients is the peptic ulcer, a frequent cause of mortality, accounting for 4% of deaths after transplantation. In transplant patients, immunosuppression such as cyclosporine A (CyA), steroids (STs) and Mycophenolate mofetil (MMF) contributes much more to cancer risk because it interrupts normal cancer surveillance mechanism. Incidence of malignant tumors in transplant recipients is 3 to 5 times higher than in the general population. Therefore, the accurate assessment of *HP* infection status in renal transplant recipients is important.

There is currently no information on the prevalence of *HP* in renal transplant recipients in Pakistan. So, this study will help fill this gap in knowledge on the prevalence of *HP* in our population.

OBJECTIVE:

To determine the frequency of *Helicobacter pylori (HP)* infection in gastric biopsies in renal transplant recipients with upper gastrointestinal symptoms.

STUDY DESIGN:

Descriptive, cross-sectional study

DURATION OF STUDY:

Six months (December 2019-May 2020).

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SUBJECTS AND METHODS:

All renal transplant patients of age range 10-65 years (children and adults) of any gender who had any one or more of the upper gastrointestinal symptoms such as epigastric pain, burning, nausea and vomiting, post prandial fullness and early satiety and in whom gastro-intestinal endoscopy and biopsies were performed, were included in the study. Data was collected from request forms and clinical charts. Age, sex and presence/absence of *HP* were recorded on a structured proforma.

RESULTS:

A total of 315 renal transplant recipients and non-renal transplant recipients underwent upper gastro-intestinal endoscopy in the gastroenterology department of SIUT, Karachi, during the study period. Of these, 106 consecutive biopsies of renal transplant recipients who had gastrointestinal symptoms were eligible for inclusion in the study. Out of which, 86 (81.1%) were male and 20 (18.9%) were female with a male to female ratio of 4.3:1. The mean age of all patients was 34.5±10.15 years (range: 12-65 years); the median age was 33.67 years. Majority of patients, 70 out of 106 (66.1%), were in age group ranging from 20-40 years.

HP infection was positive in 11 (10.4%) biopsies of renal transplant recipients. Chronic active (diffuse) inflammation was observed in 9 (81.81%), chronic active (focal) gastritis in 1 (9.09%) and follicular gastritis with activity in 1 (9.09 %) biopsies with *HP* infection. Intestinal metaplasia (IM) was found in two (18.2%) biopsies. All patients in positive group were males (100%). The most frequent gastrointestinal complaints noticed in *HP* positive patients were weight loss in nine (81.81%**)** patients followed by epigastric pain in three (27.27%) patients. No correlation was found between gender (p=0.168) and age (p=0.36) and occurrence of *HP* infection.

The other 95 (89.6%) gastric biopsies of renal transplant recipients were negative for *HP* infection. The histological findings included chronic nonspecific gastritis in 83 (89.2%), chronic active (diffuse) gastritis in 5 (5.4%), chronic active (focal) gastritis in 3 (3.2) and follicular gastritis with activity in 2 (2.2%). Goblet cell metaplasia was found in 5 (5.3%) *HP* negative biopsies.

CONCLUSION:

In conclusion, the frequency of *HP* infection is 10.4% in our renal transplant recipients which is quiet low compared to non-transplant patients. Further, large scale studies are needed to determine the true prevalence of this common pathogen in our transplant population.

Keywords:

Helicobacter pylori, renal transplant recipients, Histological findings, intestinal metaplasia, peptic ulcer, gastric cancer.